

**A Closer Look at Mid Eocene 42-43.8 Ma Biostratigraphic and Environmental Conditions at Blake Nose Western North Atlantic ODP Leg 171B Site 1051**

Hilding-Kronforst, Shari . L.<sup>1</sup> (1) Department of Geology & Geophysics, College of Geosciences, Texas A&M University College, College Station, TX.

The middle Eocene initiates the transition from the early Eocene greenhouse to the Oligocene icehouse conditions. Previous geochemical records indicate that the mid Eocene climate record may have been highly variable in terms of both sea surface temperatures and pCO<sub>2</sub>. Understanding biotic and climatic dynamics during this period is essential to identifying what drives climate change, calibrating climate models, recognizing changes in ocean circulation and biotic response that occurred in conjunction with climatic variation. A pilot study performed on samples from Ocean Drilling Program (ODP) Leg 171B Site 1051 at Blake Nose in the western North Atlantic Ocean reveal well-preserved and diverse planktonic foraminifera. This site has high sedimentation rates, cyclic variations in color and paleomagnetic control. This project examines planktonic foraminifera assemblages and geochemical signatures from cores, resulting in a high resolution climatic and biostratigraphic record for the period from 42-43.8 million years ago. There are very few high resolution isotopic records documenting the middle Eocene climatic changes leading to late Eocene cooling. Prior studies have focused on the late Eocene or Eocene-Oligocene Boundary and have been concentrated in the Pacific or Southern Oceans. The biostratigraphy for this core has not been done to date and the correlation could be used elsewhere.